

## CLAIMS:

1. A method of inventorying at least one transponder (2) by means of a communication station (1), wherein the communication station (1) emits an unmodulated carrier signal (NMCS) in a communications range, and wherein the transponder (2) on entering the communications range emits a presence-signaling signal (PRES) in the communications range, and wherein the communication station (1) on receiving a presence-signaling signal (PRES) emits an inventorying command signal (INVS) in the communications range, and wherein the transponder (2) on receiving the inventorying command signal (INVS) emits a response signal (RESPS) in the communications range permitting the inventorying of the transponder (2), and wherein the communication station (1), on correctly receiving a response signal (RESPS) undertakes inventorying of the transponder (2).
2. A method as claimed in Claim 1, wherein the transponder (2) emits a presence-signaling signal (PRES) with a first signal duration and a response signal (RESPS) with a second signal duration, and wherein the first signal duration is shorter than the second signal duration.
3. A method as claimed in Claim 2, wherein the first signal duration and the second signal duration have a ratio of 1:X, and in that the value X lies in a range between X=10 and X=100.
4. A method as claimed in Claim 3, wherein the value X lies in a range between X=20 and X=35.
5. A method as claimed in Claim 1, wherein the transponder (2) emits a presence-signaling signal (PRES) with a first transmission parameter and a response signal (RESPS) with a second transmission parameter.

6. A method as claimed in Claim 5, wherein one of two different subcarrier frequencies of each subcarrier signal (SCS1, SCS2) is used, one as first transmission parameter and one as second transmission parameter.

5 7. A communication station (1) for communication with at least one transponder (2) and for inventorying at least one transponder (2), wherein station transmission means (18) are provided for emitting and receiving signals, and wherein carrier signal generating means (15) are provided for generating an unmodulated carrier signal (NMCS), the unmodulated carrier signal (NMCS) being emitted by the station transmission means (15) in a 10 communications range, and wherein presence-signaling signal detection means (9) are provided for detecting a presence-signaling signal (PRES) generated and emitted by the transponder (2) and received by the station transmission means (15), and wherein inventorying command signal generating means (8) that can be activated as a function of the detection of a presence-signaling signal (PRES) are provided for generating an inventorying 15 command signal (INVS), and wherein response signal detection means (RESPS) are provided for detecting a response signal (RESPS) which is generated and emitted by the transponder (2) in response to a received inventorying command signal (INVS) and is received by the station transmission means (15) and which permits inventorying of the transponder (2), and wherein inventorying means (7A) are provided for inventorying the transponder (2) as a 20 function of the correctly received response signal (RESPS).

8. A transponder (2) for communication with a communication station (1), wherein transponder transmission means (29) are provided for emitting and receiving signals, and wherein carrier signal detection means (47) are provided for detecting an unmodulated carrier signal (NMCS) generated and emitted by the communication station (1) and received by the transponder transmission means (29), and wherein presence-signaling signal generating means (44) that can be activated as a function of the detection of an unmodulated carrier signal (NMCS) are provided for generating a presence-signaling signal (PRES), and wherein inventorying command signal detection means (43) are provided for detecting a 25 inventorying command signals (INVS) generated and emitted by the communication station (1) and received by the transponder transmission means (29), and wherein response signal generating means (45) that can be activated as a function of the detection of an inventorying command signal (INVS) are provided for generating a response signal (RESPS) permitting 30 the inventorying of the transponder (2).

9. A transponder (2) as claimed in Claim 8, wherein the transponder (2) is designed with a first signal duration for generating a presence-signaling signal (PRES) and with a second signal duration for generating a response signal (RESPS), and wherein the first 5 signal duration is shorter than the second signal duration.

10. A transponder (2) as claimed in Claim 9, wherein the first signal duration and the second signal duration have a ratio of 1:X, the value X lying in a range between X=10 and X=100.

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11. A transponder (2) as claimed in Claim 10, wherein the value X lies in a range between X=20 and X=35.

12. A transponder (2) as claimed in Claim 8, wherein the transponder (2) is 15 designed to generate a presence-signaling signal (PRES) with a first transmission parameter and to generate a response signal (RESPS) with a second transmission parameter.

13. A transponder (2) as claimed in Claim 12, wherein the first transmission 20 parameter and the second transmission parameter are each formed by one of two different subcarrier frequencies of each subcarrier signal (SCS1, SCS2).

14. An integrated circuit (3) for a transponder (2) for communication with a communication station (1), wherein at least one connection (26, 27) is provided for emitting and receiving signals, and wherein carrier signal detection means (47) are provided for 25 detecting an unmodulated carrier signal (NMCS) generated and emitted by the communication station (1) and received via at least one connection (26, 27), and wherein presence-signaling signal generating means (44) that can be activated as a function of the detection of an unmodulated carrier signal (NMCS) are provided for generating a presence-signaling signals (PRES), and wherein inventorying command signal detection means (43) 30 are provided for detecting an inventorying command signal (INVS) generated and emitted by the communication station (1) and received via at least one connection (26, 27), and wherein response signal generating means (45) that can be activated as a function of the detection of an inventorying command signal (INVS) are provided for generating a response signal (RESPS) permitting the inventorying of the transponder (2).

15. An integrated circuit (3) as claimed in Claim 14, wherein the integrated circuit (3) is designed with a first signal duration for generating a presence-signaling signal (PRES) and with a second signal duration for generating a response signal (RESPS), and wherein the 5 first signal duration is shorter than the second signal duration.

16. An integrated circuit (3) as claimed in Claim 15, wherein the first signal duration and the second signal duration have a ratio of 1:X, and in that the value X lies in a range between X=10 and X=100.

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17. An integrated circuit (3) as claimed in Claim 16, wherein the value X lies in a range between X=20 and X=35.

18. 15.

An integrated circuit (3) as claimed in Claim 14, wherein the integrated circuit (3) is designed to generate a presence-signaling signal (PRES) with a first transmission parameter and to generate a response signal (RESPS) with a second transmission parameter.

19. 20.

An integrated circuit (3) as claimed in Claim 18, wherein the first transmission parameter and the second transmission parameter are each formed by one of two different subcarrier frequencies of each subcarrier signal (SCS1, SCS2).